

## REMARKS

Claims 10-14, 16, 17, 20 and 21 continue to be pending in this patent application.

In this paper, claims 10 and 12 have been amended.

## OBJECTIONS TO SPECIFICATION

In this paper, Applicant has amended the specification to include headings as required by the Examiner. No new matter is introduced by any of the amendments to the specification made herein.

In view of the amendments to the specification made herein, Applicant requests that the objections to the specification be withdrawn.

## SECTION 112, 2<sup>ND</sup> PARAGRAPH, REJECTION

Claim 10 was rejected under 35 USC § 112, second paragraph, as being indefinite. Applicant traverses this rejection insofar as it might be deemed applicable to claim 10 as now presented.

This rejection has been obviated by amending claim 10 to recite "the adhesive dispensing tip" in lines 4-5.

In view of the foregoing amendment to claim 10, Applicant requests that this rejection be withdrawn.

## PRIOR ART REJECTION I

Claims 10, 13, 17, 20 and 21 were rejected under 35 USC § 102(b) as being anticipated by US 5026187 (Belanger et al.). Applicant traverses this rejection insofar as it might be deemed applicable to claims 10, 13, 17, 20 and 21 as now presented.

Independent claim 10 has been amended to recite subject matter that had been recited in claim 12, namely that the dispensing tip "is screwed onto a metal thread on the adhesive fluid cartridge."

Claim 12 was not subjected to a rejection under 35 USC § 102(b) based on the disclosure in Belanger et al. alone. In fact, on page 7 of the outstanding Office Action, the Examiner states that Belanger et al. "does not disclose the dispensing tip screwed onto a metal thread of the

adhesive fluid cartridge." Applicant submits therefore that this rejection has been rendered moot by the amendments to claim 10.

The patentability of amended claim 10 vis-à-vis the disclosures in Feldman, Belanger et al. and Osborn et al. is discussed below under the heading PRIOR ART REJECTION IV.

In view of the foregoing observations, Applicant submits that the disclosure in Belanger et al. cannot properly serve as a basis for rejecting any of claims 10, 13, 17, 20 and 21, as now presented, under 35 USC § 102(b). Applicant therefore requests that this rejection be withdrawn.

#### PRIOR ART REJECTION II

Claims 10, 11, 16, 17, 20 and 21 were rejected under 35 USC § 103(a) as being unpatentable over US 4067481 (Feldman et al.) in view of Belanger et al. Applicant traverses this rejection insofar as it might be deemed applicable to claims 10, 11, 16, 17, 20 and 21 as now presented.

As noted above, independent claim 10 now requires that the dispensing tip "is screwed onto a metal thread on the adhesive fluid cartridge."

Feldman discloses an extrusion gun with a sleeve assembly 24 incorporating an annular heating coil 36. A container 18 of material to be heated and extruded is received in the sleeve assembly, and a tapered tip 18 at a front end of the container extends through an aperture 40 in cap 38 joined to a front end of the sleeve assembly. A plunger or ram 54, 56 bears on a plunger 12 at a rear end of the container 18. On page 4 of the Office Action, the Examiner characterizes Feldman as disclosing "an adhesive fluid dispensing device with a dispensing tip (18) made of a readily heat-conductive material." On page 5 of the Office Action, the Examiner acknowledges that "Feldman fails to show the ram acting on a surface of the plunger smaller than its full surface."

Column 3, lines 67-68, of Feldman, cited by the Examiner, do not offer a disclosure of the tip being "made of a readily heat-conductive material." Rather, the cited passage describes the effect of a heat transfer plug 66. Lines 1-2 of column 4 state that "tip 18 would not otherwise normally be heated." The heat transfer plug 66 also carries a cutter 68 that is used to cut the tip 18 to form an extrusion opening (column 5, lines 12-13). From the disclosure in Feldman, it is apparent that the tip 18 is not made of metal and is not "made of a readily heat-conductive

material." Furthermore, the tip 18 does not thread onto "a metal thread on the adhesive fluid cartridge."

The Examiner relies on the disclosure in Belanger et al. as a remedy for acknowledged deficiencies in the Feldman disclosure vis-à-vis the requirements of Applicant's claims. According to the Examiner, Belanger discloses "a cartridge heater (10 with 16) arranged around the cartridge to heat its contents from diametrically opposite sides" and a ram that "acts on an area of the plunger smaller than its full surface." The Examiner contends, "It would have been obvious to one having ordinary skill in the art at the time of the invention, under the teachings of Belanger, to have made the ram of Feldman act on a surface area of the plunger smaller than its full surface area in order to allow space for an o-ring seal to be provided around the ram which would prevent seepage of material out of the cartridge and into the device."

Belanger et al. cannot be fairly characterized as disclosing a cartridge heater arranged around the adhesive fluid cartridge to heat the content of the adhesive fluid cartridge from diametrically opposite sides. Belanger et al. discloses a PTC heating device 10, well known in the art, to rapidly and evenly heat the cartridge 6 (column 2, lines 13-19). Relating to the PTC heating device, in column 3, lines 52-59, Belanger et al. mentions one type of the PTC heating device described by Steinel (US 4493972). Steinel teaches a PTC heating resistor disposed in a second channel parallel to a first channel into which a rod of liquefiable bonding material is received. This means that the PTC heating resistor is arranged extending over a relatively long length in the direction of the longitudinal axis of the axis of the guide channel for the rod. As shown in Fig. 2 of Belanger the PTC heating unit is arranged in a second parallel channel to heat the cartridge in the first channel only from one side.

Belanger et al. does not disclose a ram that acts on a small surface of the plunger, which is less than the full surface of the plunger, to thereby minimize heat transfer to the ram. To the contrary, as shown in drawing figure 2 of Belanger et al., plunger 24 appears to engage all, or nearly all, of the surface area of the lid 26 of cartridge 6.

Applicant's claims call for a *combination* of attributes that realize an adhesive fluid dispensing device that can be produced at low cost, that reliably heats the adhesive to a flowable state, minimizes heat losses from the adhesive fluid cartridge and permits convenient use of the

dispensing device in the field. The claimed combination of attributes includes (a) the arrangement of the heater around the adhesive fluid cartridge, (b) the heat conductive material of the dispensing tip, (c) the threaded coupling of the dispensing tip to a metal thread on the adhesive fluid cartridge and (d) the small area of application of the ram to the plunger. This combination of attributes is not made obvious by a reasonable combination of the teachings in Feldman and Belanger et al.

As pointed out above, Feldman and Belanger do not have features that can be properly equated with the combination of features recited in Applicant's claims. So, even if the Feldman extrusion gun were modified as proposed by the Examiner, the resulting device could not meet the requirements of Applicant's claims.

In view of the foregoing observations, Applicant submits that no reasonable combination of the disclosures in Feldman and Belanger et al. can properly serve as a basis for rejecting claims 10, 11, 16, 17, 20 and 21, as now presented, under 35 USC § 103(a). Applicant therefore requests that this rejection be withdrawn.

#### PRIOR ART REJECTION III

Claims 10, 14, 16, 17, 20 and 21 were rejected under 35 USC § 103(a) as being unpatentable over US 4065034 (Callan) in view of Belanger et al. Applicant traverses this rejection insofar as it might be deemed applicable to claims 10, 14, 16, 17, 20 and 21 as now presented.

As acknowledged by the Examiner on page 6 of the Office Action, Callan does not offer a disclosure of a dispensing device with a "ram acting on a surface of the plunger smaller than its full surface."

In the Callan dispenser, nozzle 16 is threaded into an outer end of a barrel having an annular heat-conductive jacket which contains heating elements. With this connection, the nozzle is heated along with the outer end of the barrel and not by the heated fluid passing through the nozzle. The actively-heated nozzle would present a hazard to the user.

As a remedy for acknowledged deficiencies in the Callan disclosure vis-à-vis the requirements of Applicant's claims, the Examiner relies on the disclosure in Belanger et al. The Examiner's characterization of the disclosure in Belanger et al. is at odds with the actual

disclosure in Belanger et al., as Applicant has made evident in the discussion above under the heading PRIOR ART REJECTION II. Accordingly, the modification of the Callan dispenser proposed by the Examiner cannot yield an adhesive fluid dispensing device that can meet the requirements of Applicant's claims.

In view of the foregoing observations, Applicant submits that no reasonable combination of the disclosures in Callan and Belanger et al. can properly serve as a basis for rejecting claims 10, 14, 16, 17, 20 and 21, as now presented, under 35 USC § 103(a). Applicant therefore requests that this rejection be withdrawn.

#### PRIOR ART REJECTION IV

Claim 12 was rejected under 35 USC § 103(a) as being unpatentable over Belanger et al. in view of Feldman and US 6892904 B2 (Osborn et al.). Applicant traverses this rejection insofar as it might be deemed applicable to claims 10 and 12 as now presented.

In the discussions above, Applicant has shown that Belanger et al. and Feldman do not disclose dispensers with features that can be equated with features recited in Applicant's claims.

The Examiner characterizes Osborn et al. as disclosing "a gun-type dispensing apparatus which utilizes a metal material cartridge (21 0) and a dispensing tip (238) which is screwable onto a thread of the cartridge."

It is significant that Osborn et al. does not disclose a dispenser for adhesive fluids which are applied when hot. Rather, Osborn et al. merely discloses an apparatus for applying sealing material having a plunger with a flexible outer surface and with an expanded size and a compressed size and a cartridge for receiving grout. This apparatus does not heat the sealing material and therefore cannot be regarded as having features for minimizing heat losses. Applicant submits that the disclosure in Osborn is only remotely associated with the dispensers disclosed in Belanger et al. and Feldman and that features in the Osborn et al. dispenser are not obviously applicable to the proposed Belanger et al.-Feldman dispenser as proposed by the Examiner. Moreover, even if the Belanger et al.-Feldman dispenser were so modified, the resulting dispenser could not meet the requirements of Applicant's claims.

In view of the foregoing observations, Applicant submits that no reasonable combination of the disclosures in Belanger et al., Feldman and Osborn et al. can properly serve as a basis for

rejecting claims 10 and 12, as now presented, under 35 USC § 103(a). Applicant therefore requests that this rejection be withdrawn.

CONCLUSION

In view of the amendments, observations and arguments presented herein, Applicant respectfully requests that the Examiner reconsider and withdraw the objections and rejections stated in the outstanding Office Action and recognize all of the pending claims as allowable.


If unresolved matters remain in this application, the Examiner is invited to contact Frederick R. Handren, Reg. No. 32,874, at the telephone number provided below, so that these matters can be addressed and resolved expeditiously.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

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Respectfully submitted,

By

  
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